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TESTING THE JACOBS CONDITIONS FOR URBAN VITALITY: THE CASE OF UK TOWN AND CITY CENTRES AND THE CORONAVIRUS PANDEMIC

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Being a dissertation submitted to the faculty of The Built Environment as part of the requirements for the award of ***MSc International Planning*** at University College London:

I declare that this dissertation is entirely my own work and that ideas, data, and images, as well as direct quotations, drawn from elsewhere are identified and referenced.

ABSTRACT

In the UK, cities, towns, and villages tend to be distinctly oriented around the 'high street' – a concentrated collection of mixed-use activity, the central hub of local social, cultural, and economic engagement. These spaces are critically important to communities across the country, fulfilling key roles in the public sphere for local residents and visitors alike.

During the COVID-19 pandemic, many of these districts experienced tremendous stress as a result of government-imposed restrictions on social mixing and travel, resulting in a dramatic decline in footfall and spending. As restrictions eased, some of these areas rebounded faster and more robustly than others, creating an opportunity to potentially characterise common elements of successful high street spaces.

In this study in particular, the four conditions hypothesised to be necessary for achieving and maintaining organic and diverse urban vitality, developed by American urbanist Jane Jacobs in her 1961 work *The Death and Life of Great American Cities*, were evaluated. Specifically, for each of 56 studied town and city centres across Great Britain, levels of local conformity with each condition and vitality – measured by footfall, relative to a pre-COVID baseline – were determined, and a positive correlative link between conformity and performance was sought. Using a range of analysis approaches, including a novel application of rough sets analysis, this dissertation found there to be no obvious, consistent, and clear link between the studied physical characteristics and town and city centre resilience.

While Jacobs' conditions are intuitively reasonable, then, this suggests that pursuing a high level of conformity with them is not likely to be the 'silver bullet' she anticipated; it is likely the case, instead, that many aspects of town and city centre districts, beyond the four studied in this dissertation, play a role in building successful places.

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1. INTRODUCTION

1.1 High Streets in the UK

In the United Kingdom, the 'high street' – a concentrated collection of mixed-use activity along which exist clusters of social services, shops and restaurants, residences, and public spaces – often serves as the central hub of local social, cultural, and economic engagement. In town and city centres, this activity may be linear, literally oriented along one street,[1] or it may comprise a larger district of proximate streets and plazas. Indeed, while the forms and functions of central high street districts differ, they remain broadly important to public life across the UK.

In the face of rapid socio-political evolution, "market uncertainties," "and changing consumer tastes and changing shopping habits," it is perhaps unsurprising that national and local governments, private organisations (such as the High Street Task Force), researchers, policymakers, and activists have devoted significant attention in recent years to the promotion of successful high street places (Hughes and Jackson, 2015; Roberts, 2015; Enoch et al., 2021, p.1092). In 2019, for example, a government programme offered over £300 million to help create "vibrant high streets" across the country (Ministry of Housing Communities & Local Government, 2021, p.6; Wadham, 2021).

These efforts gained new relevance beginning in 2020 with the onset of the global pandemic of the novel coronavirus and the various government restrictions on social mixing and travelling implemented in response to it. Especially during so-called 'national lockdowns,' in force from March to May 2020, in November 2020, and from January to April 2021, when travel away from home was severely curtailed, footfall to local high streets fell dramatically ("during 2020, a typical English regional city will have had approximately 10 million fewer people on its streets"), exacerbating pre-existing declines in demand for traditional retail services (Elliott, 2020; Enoch et al., 2021; High Streets Task Force, 2021, p.6).

In stages, the successful roll-out of the coronavirus vaccine (beginning in late 2020), the easing of legal restrictions (concluding in mid-2022), and the gradual liberalising of norms regarding travel and socialising all contributed to a "bounce-back in the number of people visiting high streets" (High Streets Task Force, 2021, p.6). This so-called 'bounceback,' however, has not been uniform; while some town or city centre districts have

[1] A linear corridor often, indeed, called the 'High Street' (Ordnance Survey, 2019).

seen footfall and spending return to or surpass pre-pandemic levels, others have stagnated (Enoch et al., 2021; Centre for Cities, 2022).

Because these districts play a critical role in driving local cultural, economic, and social vitality, and because many outstanding questions remain as to why some places have been more successful than others (Enoch et al., 2021), this natural variation in performance during and after the COVID-19 pandemic is believed to offer a valuable opportunity for comparative study into the social and morphological features of successful and resilient high street places.

In this context, the work of American author Jane Jacobs is considered potentially informative.

1.2 Jane Jacobs and Urban Vitality

Jane Jacobs was an American sociologist, urbanist, and journalist concerned primarily with how great cities thrive. In her 1961 book *The Death and Life of Great American Cities*, for which she is perhaps best known, Jacobs endeavoured to critique mainstream planning ideas of the mid-20th century that had created, she argued, lifeless public spaces (a "Great Blight of Dullness") (p.144). In contrast, she sought to identify particular elements that combine to make successful urban districts, defined by a natural *vitality*: a diversity of people and uses, spread out consistently over the course of the day, such that an organic mixing of urban life becomes self-supporting (Jacobs, 1961).

While "adventuring in the real world" and observing "the most ordinary scenes and events" to elucidate principles of how real cities do and ought to work, Jacobs hypothesised that there are four necessary "conditions" for generating and maintaining such "exuberant" vitality (1961, pp.13,150). For districts to be successful (she argues this is "the most important point" her book makes), they ought to have all of the following (1961, p.151):

- A good mixing of primary uses, such that people "appear at different times" throughout the day (1961, p.153). The resulting "extreme time unbalance" of single-use districts foments "stagnation [and] decay" (pp.154,155); in contrast, a successful mixing of primary uses yields "a fertile environment for secondary diversity," thus further contributing to urban vibrancy (p.162);
- Short block lengths, such that people are encouraged and enabled to physically mix. As she argued, long blocks physically segregate pockets of people and therefore "thwart the potential advantages that cities offer to incubation [and] experimentation" (p.183); short blocks, in contrast, naturally lead to "the growth of diversity" (p.186);

- A good "[mingling of] buildings that vary in age and condition," such that rents will also vary to support a diverse set of "high-yield, middling-yield, low-yield and no-yield enterprises" (pp.187,188). The natural ageing of buildings, she argued, "cultivate[s]" a remarkable "succession of [diverse commercial] hopes and schemes," thus contributing to organic vitality (p.195); and
- A good density of people, "the source of immense vitality," "represent[ing] [. . .] a great and exuberant richness of differences and possibilities" (p.220).

While Jacobs resisted formulaic planning, her rules and their underlying ideals have nonetheless made their way into mainstream planning practice (Cozzolino, 2015), inspiring generations of students (Thomas, 2019) and real-world systems and projects (Klemek, 2007; Schubert, 2014). While they are intuitively reasonable assertions, however, a review of relevant scholarly literature (presented in Chapter 2) shows that few real-world analytical studies have been undertaken to demonstrate their validity.

1.3 Study Objectives

This research, then, aims to respond to this structuring context with a novel study of the relevance of Jacobs' ideas for explaining the relative performance and resilience of UK high streets during and after the coronavirus pandemic. Specifically, this study has been undertaken to test whether relative conformity with the Jacobsian conditions positively correlates with resilient vitality (as measured by footfall after COVID-19 pandemic restrictions had eased, compared to a pre-pandemic baseline), thus enabling the development of findings with practical relevance to the planning and management of successful high street spaces.

The objectives of this report are as follows:

1) To develop a new dataset of high street conformity with the Jacobsian vitality conditions, contributing difficult-to-assemble data to the broader field of study;
2) To attempt to explain variations in town and city centre high street footfall in the face of government restrictions on travel and socialising in response to the COVID-19 pandemic as a function of their conformity with local Jacobsian characteristics; and
3) To critically evaluate the relevance of Jacobs' conditions to modern Britain and consider, relatedly, the implications of this research on efforts by practitioners in the planning field to promote successful centre districts.

1.4 Statement of Ethics

It is of the upmost importance that this dissertation – like all scholarly research undertaken at UCL – is performed ethically. In this case, a number of steps have been taken to ensure this study remains highly ethical in execution.

For example, only secondary data have been collected from publicly available sources; further, only 'neutral' physical characteristics of public spaces, requiring no analysis of personal or private data, are studied. While the accessed datasets were not specifically generated for the purposes of evaluating the Jacobsian vitality conditions, they were intended for use by researchers in fields relevant to the covered topics.

Finally, it is worth considering the ethical implications of any potential findings. In this case, the risks are low: the findings of this research will contribute to a broader conversation about the relevance of Jacobs' rules in modern Britain, but they are unlikely to, directly or indirectly, lead to catastrophic physical changes to city or town centre places that negatively impact local residents or businesses.

In this way, while this research is considered very low risk, good research ethics were not simply disregarded; rather, these considerations were integrated throughout the research process.

1.5 Dissertation Outline

Immediately following this introductory chapter, Chapter 2 presents a survey of relevant scholarly literature. Discussions of Jacobs' influence, as well as attempts to apply and quantitatively evaluate her work, are presented.

Chapter 3 introduces the approach taken in this dissertation, especially in response to Objective 1. Chapter 4 presents the findings of the analysis of this dissertation in response to Objective 2, and Chapter 5, responding to Objective 3, discusses the implications in the context of Jacobs' conditions and planning efforts for promoting resilient UK town and city centre high street districts.

Finally, generalisable conclusions are drawn and presented in Chapter 6.

2. LITERATURE REVIEW

2.1 Defining Urban Vitality

At the heart of Jacobs' distinctive school of thought is "one principle" that she asserts emerges "ubiquitous": "the need of cities for a most intricate and close-grained diversity of uses that give each other constant mutual support, both economically and socially" (1961, pp.13,14). To Jacobs, the most important feature of successful places, of "good urbanism," was this organic vitality of life and activity (Lynch, 1981; Gómez-Varo et al., 2022, p.1).

In the decades since, scholars following in Jacobs' footsteps have offered alternative conceptualisations of 'urban vitality,' as well as attempts to operationalise it in practice.

Attempts to conceptualise the term have focused on a range of elements of urban life. Some scholars have emphasised the role of the *place* itself, considering vitality the "capacity of a place to induce lively social and economic activities" (Montgomery, 1995; Ye et al., 2017, p.633). Others, in contrast, have emphasised the *people* (Gowharji, 2016), with Šćepanović et al. (2021, p.1), for example, defining vitality as the "presence of people in an urban area throughout the day."

Ultimately, scholars would generally agree that good vitality is a combination of the two – good capacity of a place to support lively activity and good presence of such activity: as Maas (1984, p.19) summarises, encompassing social, economic, experiential, and spatial components of vital spaces: "Urban Vitality is thus the synergism of a sizeable number of varied and somewhat unique commercial and experiential opportunities, and a relatively dense and socially heterogenous pedestrian population, which animates certain city areas, almost continuously, throughout each day and evening."

While approaching a sufficient definition of 'vitality' is itself an interesting scholarly endeavour, further efforts have been undertaken to *operationalise* it as measurable metric for evaluating the quality and characteristics of urban spaces, so that some can be said to be more or less vital than others and the reasons for this investigated further.

The definition by Maas (1984) implies that an ideal metric for characterising local vitality might be one that captures the quantity, quality, temporal elements, and diversity of commercial, social, and pedestrian activity. Researchers are generally constrained, however, by data availability and collection costs, so real-world analyses tend to operationalise 'vitality' through the use of proxies that are more straightforward to define and apply.

Some take particularly creative routes. Ye et al. (2017, p.634), for example, consider small catering businesses in Shenzhen to be "indicator businesses," akin to biological

"indicator species" that signal local system robustness, and use their presence as a proxy for local vitality. Pan et al. (2021), alternatively, consider the number of local points of interest and satellite imagery of visible night time lighting sufficient for characterising district vitality.

Others have defined vitality based on the assumption that the Jacobsian conditions hold, identifying vital urban spaces based on their social and morphological characteristics (Delclòs-Alió and Miralles-Guasch, 2018; Fuentes et al., 2020; Gómez-Varo et al., 2022). These studies fall short, however, describing areas with vitality *potential* rather than directly and independently characterising the nature of these spaces.

Still, most studies define vitality as a function of the presence of people. Some researchers have undertaken manual counting of the number of pedestrians in a physical space (Sung et al., 2013; Sung and Lee, 2015), while others, more cost-effectively, have relied on new technology such as cell phone call records (Šćepanović et al., 2021), smartphone mobility data (Nadai et al., 2016), or geolocated Tweets (Sulis et al., 2018).

For this dissertation, to represent 'urban vitality' in the studied town and city centre high street spaces, data capturing pedestrian footfall, collected automatically via anonymised smartphone tracking, was used. The review of the literature on precedent studies suggests this is an appropriate proxy.

This dissertation goes further, however, to examine not necessarily places with high *absolute* footfall as vital places but, instead, those with high *relative* footfall when comparing the present – 2022 – to a pre-COVID baseline. This assumption – that spaces with high vitality are also resilient (places "which can respond effectively to economic and social change") – is one that remains weakly understood among scholars, with proxies for vitality, such as pedestrian footfall or vacancy rates, often used to characterise local resilience as well (Enoch et al., 2021, p.1094). This study, then, follows the lead of precedent studies, defining a 'successful' town or city centre high street place as one that has at present high footfall relative to its own pre-COVID observations and that has, therefore, showcased both resilience and vitality in the face of the global coronavirus pandemic.

2.2 Responses to Jacobs' Work

In the decades since Jacobs published her work, it has been the subject of significant praise and criticism (Klemek, 2007; Gratz, 2014; White, 2014); as Holcomb (2015, p.182) puts it, "Jane Jacobs might have been both the most praised and reviled urbanist of the twentieth century."

Scholars writing in defence of Jacobs and her work have praised her approach (drawing on her unique insights from "first-hand experience" to wield expertise in planning and policy debates), worthy goal (to centre local residents in planning decisionmaking), and vision of "urban good" (focused on natural and organic vitality) (Kidder, 2008, pp.256,259; Alexander, 2019).

Jacobs – a formally uncredentialed planning theorist (Holcomb, 2015; Thomas, 2019) – and her work, however, have not been free from criticism, and a range of shortcomings have been identified. Some scholars, for example, have characterised her anecdotal approach as "'unscientific', 'anecdotal' and even 'amateurish,'" betraying a "snobbish ignorance" for urban experiences radically different from her own (Berman, 1982, p.382; Hospers, 2006, p.730; Larice and Macdonald, 2007, p.80; Harris, 2011, p.67 cited Marshall, 2012). Relatedly, Jacobs has been criticised for her tendency to identify "sweeping conclusions" from observations while missing key underlying structures that make good cities work (Manshel, 2010; Marshall, 2016; Kirby, 2019) or the challenges facing them, such as those of race and social justice (Lyes, 2014). Some have even asserted that she, a busy working professional, did not actually spend all that much time with her own 'eyes on the street' (Gopnik, 2016).

Finally, as Kirby (2019, p.19) notes, Jacobs wrote against the influence of central planning at a time when her neighbourhood was at risk; "it is not[, therefore,] especially hard to make a case that Jacobs was a NIMBYist trying to defend a relatively privileged neighborhood and to push back against all planning because of self-interest": Jacobs was, according to some critics, simply a naïve preservationist whose anti-development bent helped usher in an era of gentrification and unaffordability that persists in North American cities to the present (Gratz, 2014, p.17).

2.2.1 Efforts to test Jacobs' conditions

Still other scholars have pointed out that attempts to analytically verify her work – and especially her four vitality conditions – have been few in number (Marshall, 2012; Kirby, 2019).

Indeed, only a handful of prominent recent examples exist of scholars attempting to demonstrate a positive association between conformity with her conditions and observed vitality. Recent efforts in Seoul, for example, involving more than a decade of manual observations of pedestrian activity, found that places which more closely conformed with

Jacobs' conditions tended to have more walking activity (Sung et al., 2013; Sung and Lee, 2015).[2]

Nadai et al. (2016) and Delclòs-Alió et al. (2019), in contrast, used more automated data collection methods to consider the relationship between vitality, as estimated by smartphone mobility data, and conformity with Jacobs' conditions in six Italian cities and Barcelona, respectively. Both studies, again, found promising associations.

In these cases, the researchers argued their findings illustrated the continued relevance of Jacobs' proposals beyond the mid-20th century and North America, during which and from where she primarily wrote. Still, however, these efforts have been geographically limited (to Seoul, six Italian cities, or Barcelona) and undertaken only in the past decade. Clearly, more work remains to fully evaluate the continued relevance of the Jacobsian vitality conditions in different contexts around the world.

This research proposes to fill these gaps, contributing a new evaluation of Jacobs' work by linking data on the physical characteristics of UK town and city centre high street spaces with data on local performance in response to the COVID-19 pandemic. Because no similar efforts focusing on the UK have been undertaken before, this dissertation offers a novel opportunity to combine new datasets and develop new findings with practical relevance to planning students and practitioners throughout the world.

2.3 Is Jacobs Still Relevant?

It almost need not be stated that New York City of the 1950's and 60's differs fundamentally from towns and cities of the UK in a 'post-COVID' world. In this section, a brief introduction to some of the critical changes to broader structuring contexts that scholars have identified in (re-)considering Jacobs' position in planning research and practice is offered.

Certainly, Jane Jacobs was a product of her time (Brake, 2014, p.233), and her writing was heavily influenced by contemporary trends. In particular, the "urban renewal stampede of the post-war decades," for example, that drove widespread "slum clearance" in the name of freeway building and rapid suburbanisation, significantly influenced Jacobs'

[2] It should be noted that these studies used measures describing *six* contributors to urban vitality, including the four presented here and two additional ones – accessibility to public facilities and the presence of "border vacuums" and large physical barriers that "reduce walking activity" (Sung et al., 2013, p.165). While these are certainly elements introduced by Jacobs, she is, however, extremely clear that *four* conditions most important for the generation of urban vitality exist. As such, this dissertation does not consider accessibility to public facilities or the presence of border vacuums.

experiences in her beloved Greenwich Village (Fischer and Altrock, 2014, p.202; Klemek, 2014, p.177).

In the half a century since, however, forces influencing urban development have evolved significantly, and the particular social and economic conditions that made Jacobs' Greenwich Village a rich place for elucidating truths about how cities work may not remain as relevant today (Lyes, 2014, p.74). Indeed, since then, broad trends of "rapid globalization, peak oil and neoliberal as well as deregulated approaches to planning" have led to notable "paradigm shifts" in how cities are planned and shaped (Schubert, 2014, p.9); today, Jacobs' post-war city would be foreign to those familiar with the "new spatial demands" of "a large-scale international economy of headquarters and chain stores" (Brake, 2014, p.233). While recent renewals in interest in the downtown and good-quality regeneration have emerged, it is difficult to escape the conclusion that the modern "urban economy [. . .] follows a completely different logic and manifests completely different characteristics" than those of Jacobs' time (Brake, 2014, p.240).

Debates about the most important aims of planners have evolved, too (Marshall, 2012; Roskamm, 2014). Today, as different forces influence modern cities, so, too, must planners respond differently; while Jacobs, for example, wrote in a context of rapidly growing urban populations, today city dwellers are ageing (Dulski and Straaten, 2014); similarly, economic, social, and environmental resilience and sustainability considerations influence the work of modern planners more than they did in Jacobs' time (Berke and Conroy, 2000; Conroy and Berke, 2004; Dulski and Straaten, 2014).

It cannot be said that Jacobs' ideas retain no relevance (Corbett, 2020).[3] Still, fundamental paradigm shifts of the last half of a century have occurred. As Dulski and Straaten (2014, p.198) put it, perhaps it is time for a "Jane Jacobs 2.0 approach, to help us bring her ideas into current practice," suggesting as her writing is translated from its original context to the present, a certain level of adjustment must be made. What remains unclear, however, is exactly the scale and scope of such adjustments required.

2.4 Conclusion

This brief review of the literature yields several important findings relevant for this dissertation.

[3] The author is nearly complete with a second consecutive MSc in a planning related discipline. Over the course of both programmes, Jacobs was referenced several times. It would seem to be impossible to avoid being exposed to her ideas in modern planning discourse.

First, while 'urban vitality' is an amorphous term with many possible definitions, scholars would generally agree that it must encompass an evaluation of human activity, as evidenced by many researchers who have operationalised the term with a proxy measuring footfall in some form. For this study, 'urban vitality' was operationalised, similarly, by assuming – reasonably, according to past studies – that data representing pedestrian activity, generated based on anonymised smartphone tracking, could effectively capture local vitality and resilience to pandemic-era disruptions.

Second, while Jacobs' rules have had tremendous staying power in the planning field for decades, they have not been without their detractors; while recent attempts to empirically verify her work have had success, they have also been limited in scope. Further, while it may be the case that the relevance of Jacobs' rules has shifted since she proposed them, it is precisely this staying power and limited analytical basis that make further research to evaluate their continued appropriateness especially critical for planning practitioners everywhere.

This is the structuring context to which the remainder of this report responds.

3. DATA

The primary hypothesis of this study was that town and city centre high street districts exhibiting greater conformity with the Jacobsian vitality conditions would show better relative performance after pandemic-era restrictions had eased, suggesting Jacobs' work (which continues to be discussed and applied in diverse planning contexts throughout the world) retains relevance in modern Britain (Figure 3-1) (Klemek, 2007; Schmitt and Hartmann, 2016; Thomas, 2019).

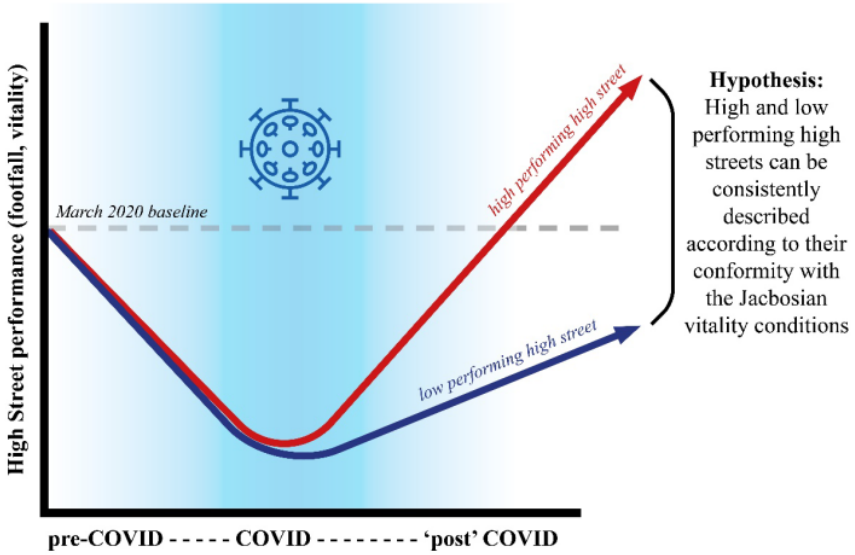

Figure 3-1 High Streets were certainly impacted by COVID. It was hypothesised that varying conformity with Jacobs' four vitality conditions could be related to how well footfall 'bounced back' after government restrictions had eased.

3.1 Data Collection

In order to test this hypothesis – and to respond to Objective 1 – sufficient data on UK town and city centre high street districts (including conformity with the studied vitality conditions and performance in response to coronavirus-related disruptions) were required. The process undertaken for each studied characteristic is briefly introduced in the subsequent sections.

Two initial comments are warranted, however. First, where possible, data were selected to represent geographic areas with the most spatial alignment possible; still, combining data from multiple sources is a task fraught with uncertainty. Because significant effort – far beyond the scope of this dissertation – would have been required to ensure complete alignment of the gathered data, the approach taken here is nevertheless considered

worthwhile and robust. Still, this process – including the selected subset of the 56 studied settlements – was heavily influenced by the data available, and future study based on independently generated data may be able to augment the analysis presented here.

3.1.1 Mixing of land uses

Jacobs wrote that, ideally, a "district [. . .] must serve more than one primary function; preferably more than two" (1961, p.152). To operationalise this concept in scholarly study, researchers have approached this variable in different ways; Nadai et al. (2016), for example, used a series of metrics capturing land use mixing by land area, residential and non-residential mixing, and nightlife density, among others.

For this study, a recent analysis, published by the Office for National Statistics (ONS) and the Ordnance Survey (OS), identifying and describing high streets in Great Britain was used. This analysis applied an experimental methodology that automatically identified as local high streets all spatial clusters of at least 15 addresses classified as "retail" within 150 meters of one another (Ordnance Survey, 2019).[4] One of the published datasets accompanying the analysis describes the percentages of addresses on a high street that are considered retailing, offices, community, leisure, and residential uses for each local authority (Office for National Statistics, 2020a).

While these data, provided at the local authority level, obscure detail about individual town and city centre high streets, they were the best available to describe centre district land use mixing and were therefore considered appropriate to illustrate how the characters of these areas tend to differ across Great Britain.

To convert the provided percentage of addresses with certain land use categories into one land use mix index (LUMI), the following approach was taken. An unrealistic ideal high street was defined to be one in which all land use types of the available dataset were perfectly balanced, so that 20% of the ideal high street's addresses would be classified each as "retailing," "offices," "community," "leisure," and "residential." It is, of course, not the case that any town or city centre high street place in reality could, would, or should have a perfect mix of land uses; this ideal high street, however, could be used as a comparison against which real-world high street districts could be evaluated (Equation 3-1).

[4] This study considered not mixed-use districts – areas on which Jacobs was particularly focused – but instead collections of linear clusters of retail addresses in centre areas. While the latter is very likely one type of the former, further empirical study with a bespoke data collection approach is therefore likely necessary for more fine-grained results.

$$Land\ Use\ Mix\ Index = \sum_{i}^{j} |Land\ Use\ Type\ Percentage\ Observed_i - 20\%| \quad (3\text{-}1)$$

The calculated LUMI values – which are negatively correlated with conformity, meaning a higher value indicates less land use mixing – range from 108.2 (Plymouth has the least land use mixing) to 73.6 (Burnley has the most). London has a very high mixing (74.6). The median value is 96.5, corresponding closely with Cambridge and York (Table 3-1). The full dataset, for all calculated indices presented in this chapter, is available in Appendix A.

Table 3-1 Sample data: Land use distribution in high street districts and corresponding LUMI

Local Authority	Retailing (%)	Offices (%)	Community (%)	Leisure (%)	Residential (%)	Land Use Mix Index
Burnley	41.0	22.9	2.9	0.3	32.9	73.6
London	45.1	22.7	2.3	0.4	29.5	74.6
Cambridge	29.5	8.6	3.0	0.3	58.7	96.3
York	31.7	9.3	2.1	0.3	56.6	96.6
Portsmouth	20.2	3.9	1.7	0.3	73.9	108.2

3.1.2 Short block lengths

Regarding the ideal length of blocks, Jacobs wrote that "streets and opportunities to turn corners must be frequent" (1961, p.178). While this condition most obviously implies urban streets are arranged in a grid – a network typology more typical of North American cities – the underlying principle ought to hold, that frequent opportunities to change direction can encourage social mixing and therefore contribute to urban vitality (Sung and Lee, 2015). Sung and Lee (2015, p.323) overcome this challenge by considering "the number of intersections per net area" and "the ratio of 4-way intersections" in districts in Seoul, where, like the UK, grid-style networks do not dominate. Following the lead of this precedent study, then, the applied metric for the calculation of a block lengths index (BLI) was observed intersection density along town or city centre high streets.

One component of the analysis by the ONS and OS included a mapping of all high streets (Ordnance Survey, 2020). Because these data were only available online and could not be downloaded, they were evaluated manually by the researcher. First, the high streets located in each town or city centre were selected through a subjective analysis of local geographical clues, such as the presence of a ring road or the clustering of high streets around an obvious core. For the selected high streets, the number of intersections along each centreline was counted and its length noted. The BLI was calculated as the total length of all

included high street centrelines divided by the number of counted intersections, where lower values of the BLI, measured in meters per intersection, indicated greater conformity with the Jacobsian condition.

The calculated BLI values range from 45.8 (Portsmouth has very short block lengths) to 407.5 (Telford, long[5]). Again, London has a low BLI, as does Brighton (owing in part to The Lanes, a market district known for its fine-grained urban fabric). The median value is 67.9, corresponding closely with Swindon and Dundee (Table 3-2).

Table 3-2 Sample data: BLI values

Settlement	Block Lengths Index
Portsmouth	45.8
Brighton	46.4
London	58.7
Swindon	67.7
Dundee	68
Telford	407.5

3.1.3 Mixing of building ages

Turning to building ages, Jacobs wrote that a "district must mingle buildings that vary in age and condition, including a good proportion of old ones" (1961, p.187). Delclòs-Alió and Miralles-Guasch (2018, p.507) offer one precedent: in Barcelona, they operationalised the condition by collecting the "mean year of construction [. . .] [and] its standard deviation" for studied districts.

This study utilises a similar approach based on the data available. From Edina Digimap, an online mapping service[6], geodatabase files of UK building footprints and age categories ("Modern," "Historic," "Interwar," "Mixed Age Part Historic," "Mixed Age Part Interwar," "Postwar," and "Sixties Seventies") were downloaded and analysed using ArcGIS.

For each town and city centre (the specific boundaries of which were defined subjectively to align with the selected high streets of Section 3.1.2), the total areas occupied by all buildings and by all buildings in each age category were calculated. Next, the

[5] Telford's inordinately high BLI is due to the fact that the town centre district was identified as comprising one shopping mall, bounded by relatively large arterial roads. Technically, the true intersection density for Telford might reflect the density of intersections *within* the shopping mall, but, owing to data constraints in other town and city centres and a desire for conformity (in this study high streets have all been evaluated as outdoor spaces), this was not calculated.
[6] Available at https://digimap.edina.ac.uk/.

proportion of centre district buildings, by area, occupied by buildings of different age categories could be determined.

Just as in Section 3.1.1, an unrealistic and idealised centre was defined as one in which all categories of building ages were equally represented. A building age mix index (BAMI) was then calculated in a comparable manner to the LUMI, with higher values corresponding to less age mixing.

The calculated BAMI values range from 143.7 (Telford has the least building age mixing) to 51.0 (Luton, the most). It should be noted that the BAMI value does not reflect the *direction* towards which local building ages skew: York has a high proportion of historic buildings and Milton Keynes a high proportion of modern ones, but both have relatively high BAMI values. The median value is 81.3, corresponding closely with London[7] and Preston (Table 3-3).

Table 3-3 Sample data: Distribution of building ages in centre districts and corresponding BAMI values

Settlement	Modern (%)	Historic (%)	Interwar (%)	Mixed Age Part Historic (%)	Mixed Age Part Interwar (%)	Postwar (%)	Sixties Seventies (%)	Building Age Mix Index
Luton	22	21	8	14	10	25	0	51.0
Preston	19	35	1	21	1	23	0	81.0
London	22	34	4	27	2	9	1	81.6
York	10	46	5	30	5	4	0	94.3
Milton Keynes	68	0	0	0	0	27	5	132.4
Telford	86	0	0	0	0	14	0	143.7

3.1.4 Sufficient density of population

To support organic vitality, Jacobs proposed that a "district must have a sufficiently dense concentration of people, for whatever purpose they may be there. This includes people there because of residence" (1961, p.200); when she proposed ideal density figures on subsequent pages, however, it was in terms of residential dwellings per acre (1961, p.217). Looking to precedents, Delclòs-Alió and Miralles-Guasch (2018, p.507) and Nadai et al. (2016) operationalise this similarly, calculating densities of a range of features, such as people, buildings, employment opportunities, and places.

For this study, for consistency with the other town and city centre high street features evaluated thus far, it was considered appropriate to utilise the gathered data sources (rather

[7] This is the only category in which London does not score in the highest tertile.

than identify a new census-type dataset for this condition). As a result, the OS mapping described in Section 3.1.2, which provides an estimate of the number of residential dwellings along each high street segment, was used. For the same segments evaluated in Section 3.1.2, the number of residential dwellings on each high street was tallied, and the residential density index (RDI) was calculated, in dwellings per meter, as the number of dwellings on a high street in the town or city centre divided by the total length of all included high street centrelines.

The RDI values range from 0 (Milton Keynes and Telford were estimated to have zero residential dwellings along high street segments) to 0.73 (Slough). Birmingham scores relatively low, while other major cities, such as London and Edinburgh, score relatively high. The median value is 0.21, corresponding to Leicester and Newport (Table 3-4).

Table 3-4 Sample data: RDI values

Settlement	Residential Density Index
Milton Keynes	0
Telford	0
Birmingham	0.15
Leicester	0.21
Newport	0.22
Edinburgh	0.36
London	0.40
Slough	0.73

3.1.5 High street performance

The performance of UK town and city centre high streets has been tracked throughout the coronavirus pandemic by Centre for Cities (CfC), with the relevant data available on their online "High streets recovery tracker" (Centre for Cities, 2022).

Based on the review of relevant scholarly studies of the previous chapter, which found that the presence of people in studied localities is often used as a proxy for vitality (Sung et al., 2013; Sung and Lee, 2015; Nadai et al., 2016; Sulis et al., 2018; Šćepanović et al., 2021), the CfC 'overall recovery index,' which "looks at everyone who was in the city centre at any time of the day, compared to a pre-lockdown baseline of 100" and which is measured based on "anonymised mobile phone data," was applied (Centre for Cities, 2022). Data are available for every day from March 2020, indexed to 100, which represents "pre-lockdown levels" of footfall (Centre for Cities, 2022).

To compare similar time periods, the average value of the CfC overall recovery index from each day in March 2022 was calculated for each settlement. This was defined as the performance index (PI).[8]

The calculated PI values range from 61 (London had the weakest recovery of studied centre districts) to 169 (Plymouth, the strongest). Many major cities had weak recoveries, including Birmingham and Glasgow (87 and 95, respectively). The median, 105, corresponds with Liverpool and Edinburgh (Table 3-5).

Table 3-5 Sample data: PI values

Settlement	Performance Index
London	61
Birmingham	87
Glasgow	95
Liverpool	104
Edinburgh	105
Plymouth	169

3.1.6 Data cleaning and preparation

To prepare the calculated indices for analysis, a final step was undertaken to classify each studied settlement based on its *relative* score. Indeed, rather than define arbitrary standards of 'high' or 'low' conformity with Jacobs' conditions and 'high' and 'low' performance, each studied settlement was evaluated relative to its peers. A town or city centre defined as 'low conforming' in the dataset, therefore, is strictly one that is *relatively* 'low conforming,' when compared to other studied UK settlements.

For each evaluated characteristic, three categories were assigned: towns or cities with PI values falling in the lowest tertile, for example, were assigned a "1," corresponding to "low performance"; in the middle tertile, a "2," or "medium performance"; highest tertile, a "3," or "high performance."

With the full dataset generated, fully meeting the aims of Objective 1, analysis in response to Objective 2 is presented in the next chapter.

[8] As introduced in the literature review, this means that a 'successful' town or city centre is one in which footfall is not necessarily high in an absolute sense but rather in a relative sense, when compared to the own town or city centre's pre-COVID statistics. As a result, high streets which have relatively low footfall could be classed as 'successful' in this dataset; because, however, this study specifically examines the post-COVID 'bounceback' period, this is considered appropriate.

4. ANALYSIS

In this chapter, the analysis of the dataset generated in Chapter 3 is presented in response to Objective 2. Following a brief summary of the studied settlements, visual, exploratory, and rough sets analyses are presented.

4.1 The Studied Settlements

A brief introduction to the 56 studied settlements is warranted.

First, the included cities and towns are distributed throughout Great Britain. The least-represented regions are Wales and North East England, with three settlements each; North West and South East England, in contrast, have eight settlements each (Figure 4-2). The distribution of included settlements corresponds reasonably well with the distribution of the largest 115 settlements in Great Britain overall (Figure 4-1) (Office for National Statistics, 2020b).

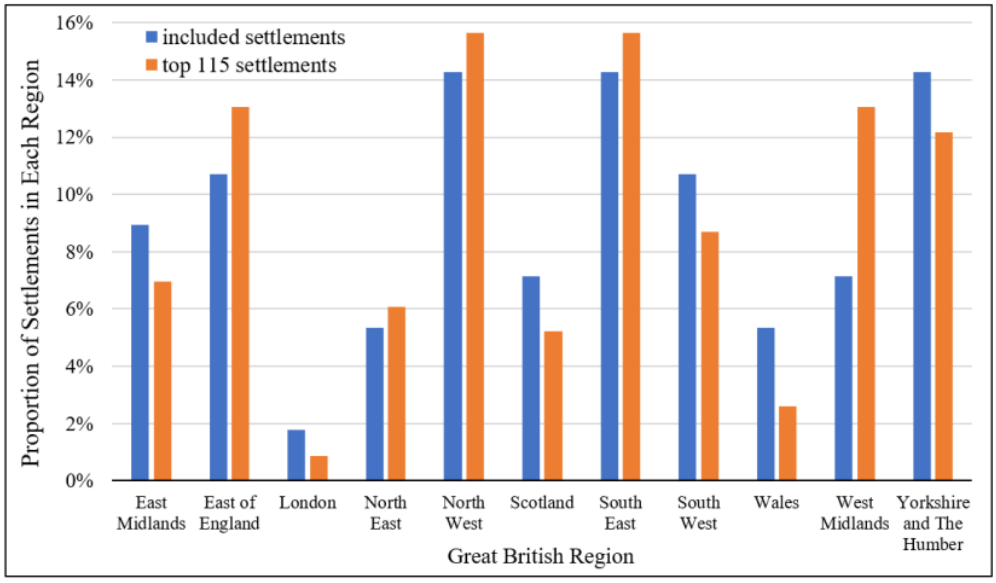

Figure 4-1 Regional distribution of included settlements compared to distribution of the largest 115 British settlements

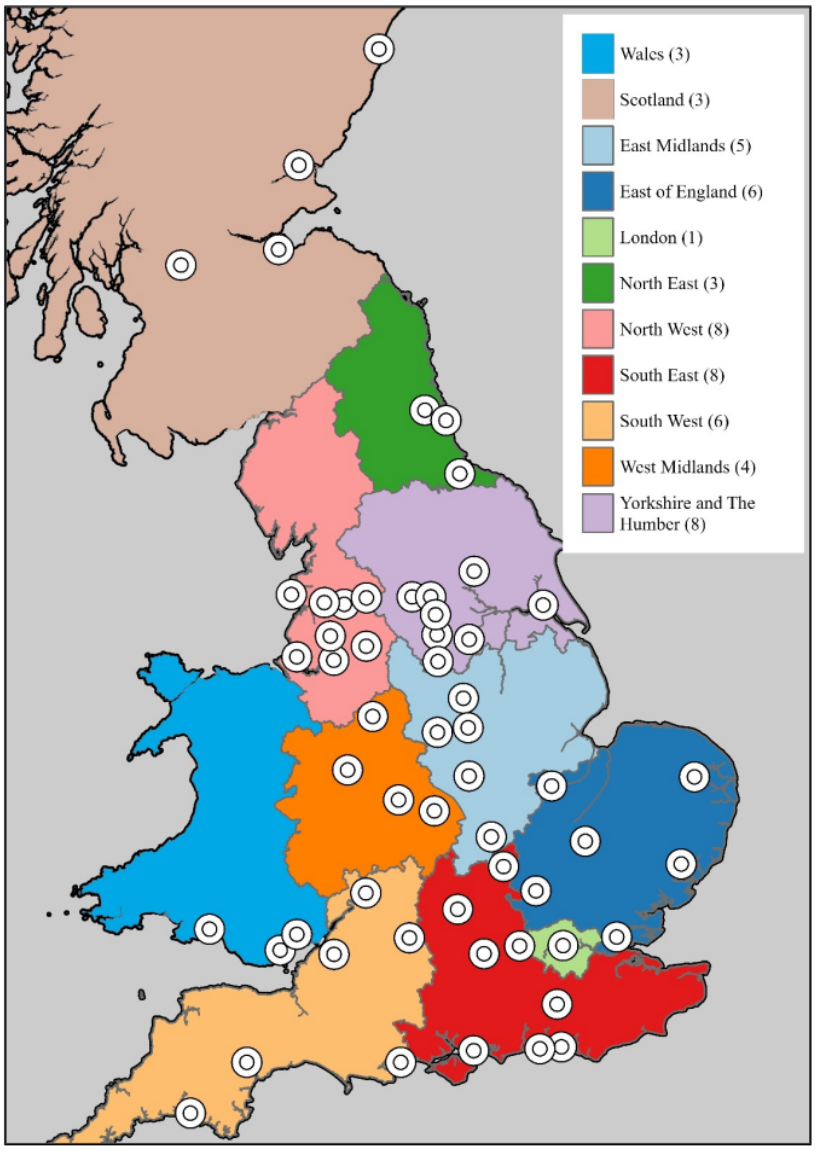

Figure 4-2 Distribution of studied settlements (white) across Great Britain, by region

While the study locations are not strictly the 56 largest British towns and cities, the 20 most populous have been included, with Wolverhampton being the largest excluded place (Office for National Statistics, 2020b). The settlements differ in size substantially: the largest is London (almost 9,000,000 people), and the smallest is Mansfield (fewer than 100,000) (Figure 4-3). Together, the studied settlements are home to over 23,000,000 people, more than a third of the total population of Great Britain.

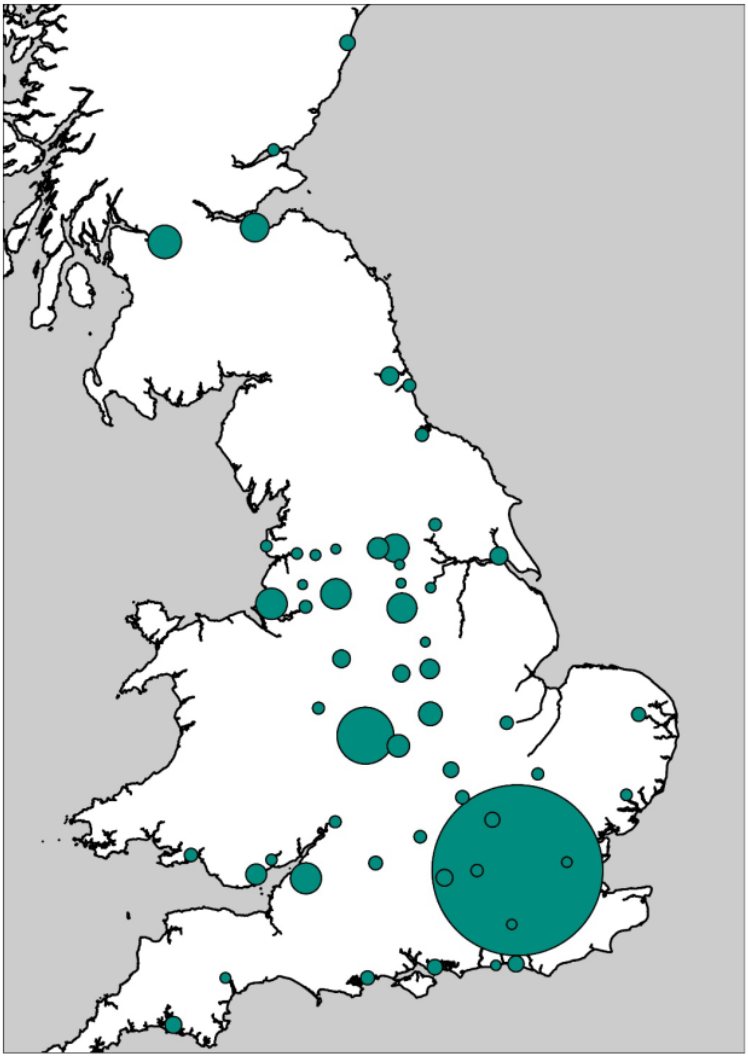

Figure 4-3 Distribution of studied settlements (green) across Great Britain, with dots sized by population

Finally, in the UK, 'city' is a formal designation without consistent criteria. The place may have a substantial population, cathedral, or some other feature of local prominence (Sandford, 2021); not all cities meet these criteria, and many towns do. In this study, 37 of the 56 settlements are cities (66%), while 19 are towns (34%) (Figure 4-4). The smallest studied city is Wakefield (population 110,000), a place smaller than 15 of the studied towns (the largest of which is Reading, population 250,000) (Office for National Statistics, 2020b). Because the formal designation of 'city' does not necessarily correspond with consistent local characteristics, then, the distinction between 'city' and 'town' was not a lens through which the studied settlements could be analysed in this dissertation.

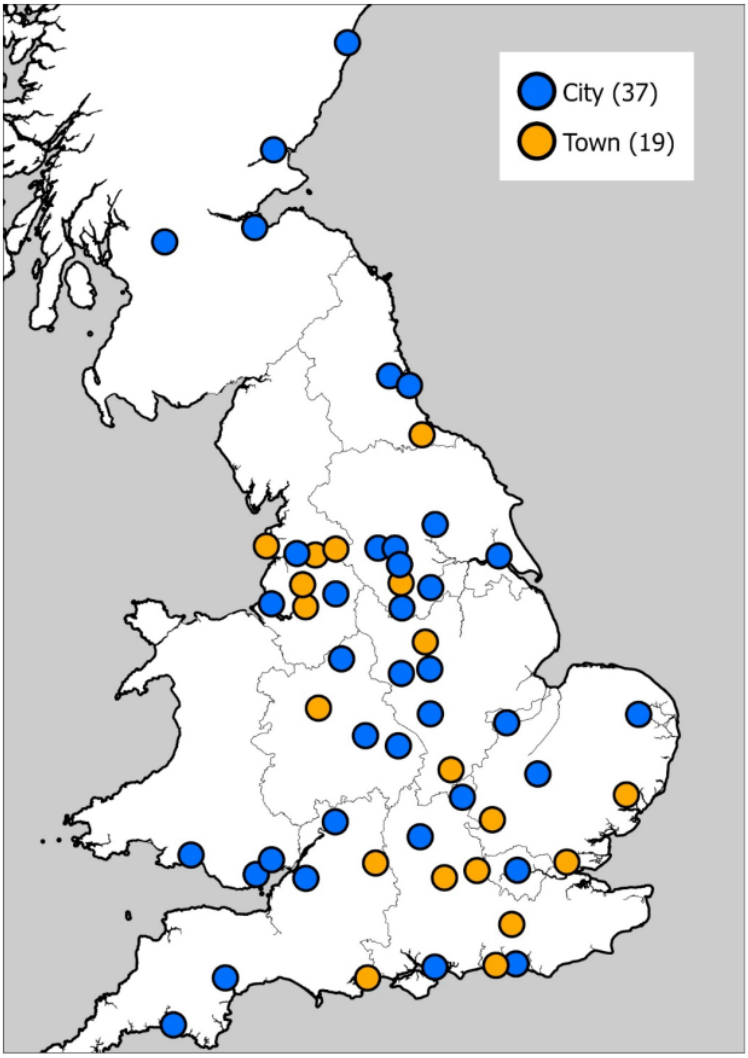

Figure 4-4 Approximately two-thirds of the studied settlements are formally 'cities', while approximately one-third are 'towns'

4.2 Visual Analysis

First, a simple visual analysis was performed.

To begin, the conformity scores for each of the vitality conditions were mapped. Few obvious patterns emerged; rather, a key takeaway was that few settlements are consistently high or low conforming (Figure 4-5). Consider the settlements in the North West of England, for example: while each has medium or high mixing of land uses and relatively short block lengths, half or more than half of the settlements in the region have poor mixing of building ages and low population densities.

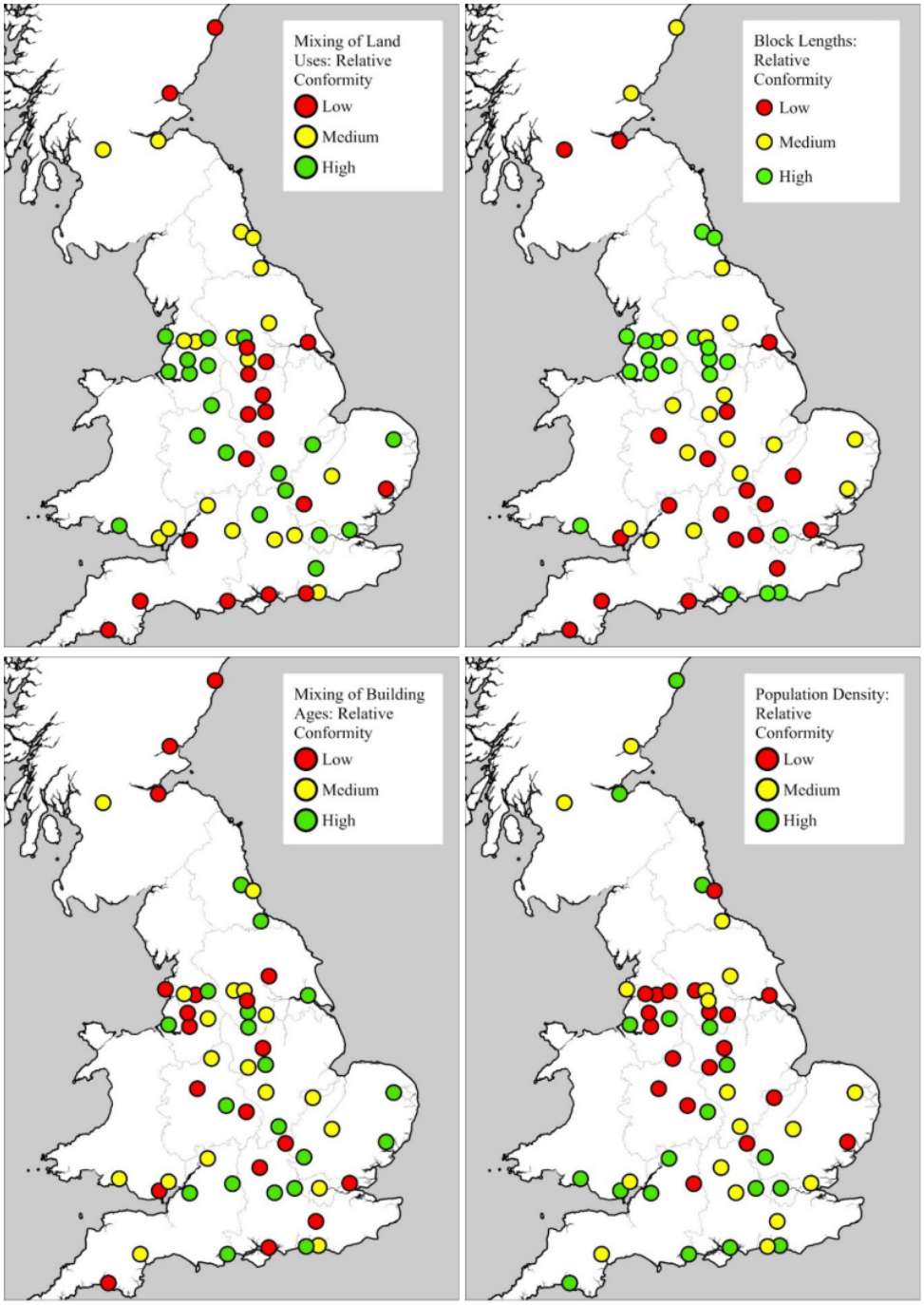

Figure 4-5 Local conformity with the Jacobsian conditions. Clockwise from upper left: LUMI, BLI, RDI, and BAMI measures.

The hypothesis of this dissertation is that *overall* conformity with the vitality conditions will be associated with high relative performance, aligning with Jacobs' assertion

that all four vitality conditions must be met in concert (1961; Nadai et al., 2016, p.3). As such, a new statistic was calculated for each settlement, the Overall Relative Conformity (ORC), calculated as the sum of the settlement's individual conformity scores (ranging 1 through 3) for each of the four vitality conditions. ORC values ranged from 5 (only Mansfield, which has low conformity in all categories, save for a moderate BLI score) to 12 (only Liverpool, high conformity in all categories). The calculated ORC values were further classified as "low" (5, 6, or 7), "medium" (8 or 9), or "high" (10, 11, or 12).

Next, the settlements, coloured by ORC and PI values, were mapped (Figure 4-6). Again, few obvious patterns emerge: while a handful of settlements have the same level of relative conformity and performance, the vast majority appear to have PI levels inconsistent with their ORC. Plymouth and Exeter, for example, have low ORC but high PI scores; Manchester, in contrast, has a high ORC but low PI score.

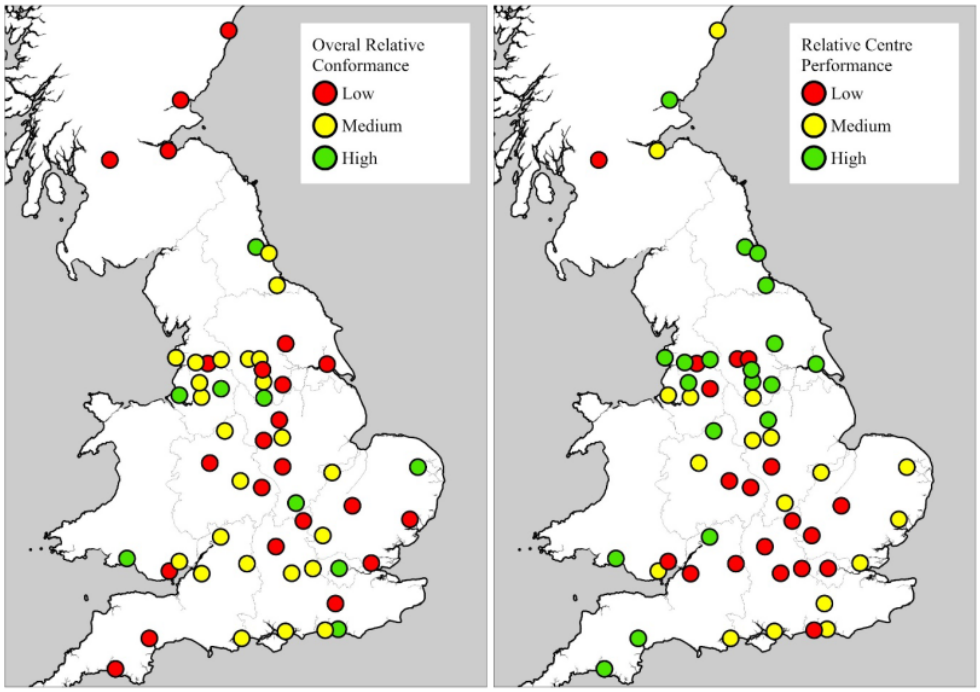

Figure 4-6 ORC compared to PI: There does not appear to be much positive consistency between conformity and performance.

4.3 Exploratory Analysis

In addition to a visual inspection of the data, exploratory analysis was undertaken using Microsoft Excel to test this dissertation's hypothesis. Several approaches were pursued.

First, the settlements were sorted by ORC; if a positive relationship were to exist between ORC and relative performance, higher ORC values would correspond with higher average performance values and low with low. The data do not, however, show this to be the case, with low conformity settlements having nearly identical PI values to high conformity ones, on average (Table 4-1).

To be sure, some settlements conform with Jacobs' hypotheses: Milton Keynes, Coventry, Oxford, Leicester, and Ipswich, for example, have low ORC and low PI scores; on the other hand, however, many run counter to expectations, with Mansfield, Plymouth, Exeter, Hull, Dundee, York, and Wakefield all exhibiting low ORC and high PI scores. The same can be said among high-ORC settlements: while London and Manchester, for example, have shown poor post-COVID performance, Swansea and Newcastle have been notably successful.

Table 4-1 Average performance among settlements in each ORC category

Conformity category	Corresponding ORC values	Settlements in this category	Average performance of settlements in category
Low	5, 6, or 7	23	2.04
Medium	8, 9	24	1.96
High	10, 11, or 12	9	2.00

Second, the settlements can be sorted by PI value; similar to above, high-performance settlements should tend to have higher ORC values. Again, the data do not show this to be the case, as the average ORC values among low and medium performing settlements are slightly higher than among high performing ones (Table 4-2).

Table 4-2 Average conformity among settlements in each performance category

Performance category	Corresponding PI value	Settlements in this category	Average ORC of settlements in category
Low	1	19	8.11
Medium	2	18	8.11
High	3	19	7.79

Finally, a simple examination of edge case settlements was instructive. Liverpool, the only settlement with an ORC of 12 (and therefore the only city that meets the Jacobsian ideal), exhibits only moderate performance; Mansfield, in contrast, has the lowest ORC value and yet had a very strong recovery, in the top quartile of studied settlements.

While there is significant 'noise' in the data, it certainly does not appear that there is an obvious and consistent relationship between ORC and PI. One final analysis approach, a more quantitative examination with the help of formal analytical tools, was performed to again attempt to elucidate any relationships in the data.

4.4 Rough Sets Analysis

4.4.1 Motivation

Rough sets analysis (RSDA) is a robust analytical methodology for identifying relationships in complex and uncertain datasets (Pawlak, 1993; Pawlak, 2001; Rissino and Lambert-Torres, 2009; Zhang et al., 2016). Baycan-Levent and Nijkamp (2009), for example, use RSDA to predict important factors for successful green space planning based on the experiences of 23 European cities. The output of the most common RSDA approach, known as "basic minimal covering," is the shortest set of the simplest 'rules' (of the form "IF a settlement has high mixing of primary uses AND a settlement has high mixing of building ages, THEN the settlement is likely to have performed well in its post-COVID recovery") that cover all observed cases.

Because the primary motivation of this study is to attempt to replicate Jacobs' vitality conditions and because the preceding visual inspection showed the generated dataset is relatively 'fuzzy' and uncertain, RSDA was identified as the most relevant and suitable methodological approach.

4.4.2 Analysis

To encode the data for RSDA, the four Jacobsian conditions were defined as 'attributes' (A1, A2, A3, and A4) with three possible values (1, 2, and 3), and performance was classified as the 'decision attribute' (D) with, again, three possible values (1, 2, and 3) (Table 4-3). Each settlement was defined as an individual observation, whose attribute values corresponded directly with those of the generated dataset of Chapter 3.

Next, the free software programme ROSE2 was used to apply the basic minimal covering algorithm; 24 'precise' and eight 'approximate' rules were generated, each describing between one and five settlements (and an average of approximately two) (Table 4-4). Precise rules are those which describe a series of characteristics that correspond to one and only one performance level, while approximate rules describe a series of characteristics corresponding to up to two performance levels.

Table 4-3 Definition of RSDA attributes and potential values

Attribute	Field Meaning	Potential Values and Meaning		
		1	**2**	**3**
A1	Land Use Mix Index	Low conformity	Medium conformity	High conformity
A2	Block Lengths Index			
A3	Building Age Mix Index			
A4	Residential Density Index			
D	Performance Index	Low performance	Medium performance	High performance

Table 4-4 Generated RSDA rules. Rule 1, for example: "Moderate land use mixing, moderate building age mixing, and moderate residential density is in three settlements associated with low performance."

Rule	*if…*				***then…***	*Rule Strength*
	A1 (LUMI)	A2 (BLI)	A3 (BAMI)	A4 (RDI)	**D (PI)**	
1	2		2	2	**1**	*3*
2	2	1	3			*2*
3		2	2	2		*3*
4	2	2		1		*1*
5	1		3	2		*1*
6	2		1	1		*1*
7		2	3	3		*1*
8	2		1	3	**2**	*2*
9	1	2	2	1		*1*
10	1	3		3		*2*
11	3		3	2		*2*
12	2	3	2	3		*1*
13		2	1	3		*1*
14	1	2	3	1		*1*
15	3		3	3		*1*
16		2	1	2	**3**	*2*
17	1	3	2			*1*
18	2	3	3			*2*
19	1	1	2			*1*
20		3	1	2		*2*
21	2	2	3	2		*1*
22		2	1	1		*1*
23		1	2	3		*1*
24		1	3	1		*1*
25	3	1			**1,2**	*5*
26	1	1	3	3		*3*
27	2		2	1	**1,3**	*3*
28	3		2	3		*3*
29	3		3	1		*2*
30	1	1	1			*2*
31	3		2	1	**2,3**	*2*
32	3	3		1		*4*

Following the lead of Baycan-Levent and Nijkamp (2009), all rules describing one settlement were disregarded (15). As the goal of this study is to elucidate clear relationships between conformity and performance, all approximate rules with a decision attribute of '1 or 3' were disregarded as well (4).[9] The remaining 13 'priority' rules together describe 31 (55%) of the studied settlements (Table 4-5).

Table 4-5 Generated RSDA rules, filtered to display only those most relevant for this study.

Rule	*if…*				***then…***	*Rule Strength*
	A1 (LUMI)	A4 (BLI)	A3 (BAMI)	A2 (RDI)	**D (PI)**	
1	2		2	2	**1**	*3*
2	2	1	3			*2*
3		2	2	2		*3*
8	2		1	3	**2**	*2*
10	1	3		3		*2*
11	3		3	2		*2*
16		2	1	2	**3**	*2*
18	2	3	3			*2*
20		3	1	2		*2*
25	3	1			**1,2**	*5*
26	1	1	3	3		*3*
31	3		2	1	**2,3**	*2*
32	3	3		1		*4*

Examining the priority rules, none match Jacobs' hypotheses strictly and consistently.

Consider rules three and 16, for example: what Jacobsian reason could explain why moderate population density, moderate mixing of building ages, and moderately short block lengths is associated with low performance, while moderate population density, *low* mixing of building ages, and moderately short block lengths is associated with *high* performance? Why would high building age mixing be variously associated with low, moderate, and high performance?

One indication of the inconsistency of the underlying data is the fact that the generated rules are relatively weak (the strongest precise rule covers only three cases). In contrast, Baycan-Levent and Nijkamp (2009), studying fewer than half the number of settlements examined here, were able to generate rules describing up to eight cases.

[9] Consider rule 30, however: if a settlement has low conformity in land use, building age mixing, and block length categories, it is likely to have low performance *or* high performance!

One approach for summarising the generated rules is to examine the frequency with which different attributes appear; in this case, LUMI, RDI, and BAMI appear in 10 of the 13 rules and BLI appears in 9, suggesting that the four evaluated characteristics are at least moderately balanced in their utility for predicting relative performance levels.

Another approach relevant for this case is to examine how the attribute values influence the performance values in the priority rules, on average. Among the rules where the decision attribute is 1, corresponding to low performance, the average included attribute value is 2 and the average sum of all included attribute values is 6; among rules with a decision attribute of 2, the average attribute is 2.2 and average sum 6.6; decision attribute of 3, 2.1 and 6.4. If a positive relationship existed between conformity and PI, these values would have been expected to consistently increase, but this is not observed in reality.

Finally, then, several concluding statements, incorporating the findings of this section with those of Sections 4.2 and 4.3, can be made. First, the generated rules are weak, suggesting the underlying data has inconsistencies difficult to simplify into broadly applicable relationships. Second, they do not describe the links between conformity and performance as hypothesised or consistently. Finally, no individual characteristics appear to behave entirely consistently, either, with each lacking an obvious and strong positive or negative relationship with performance.[10]

The significance and implications of these findings are discussed further in the following chapter.

[10] More traditional linear regression analysis of the raw data presented in Appendix A was also performed using SPSS, though not presented here due to space constraints; the estimated parameters of conformity characteristics were largely not of the expected sign (suggesting a positive relationship exists between LUMI and PI rather than the hypothesised negative relationship, for example), and none were statistically significant. These results directly align with those of the other analysis approaches presented in this chapter.

5. DISCUSSION

5.1 Summary of Findings

In the previous chapter, consistent with Objective 2 of this dissertation, three analysis techniques reached similar conclusions: the generated data do not contain enough evidence to demonstrate the validity of this study's hypothesis, that conformity with Jacobs' principles of urban vitality can help explain why some town or city centres have 'bounced back' after pandemic-era disruptions better than others.

This result must be interpreted carefully. Consider, for example, the following: when settlements were ordered by conformity, it was the lowest conforming group that actually had the *highest* average performance (Table 4-1). Assuming Jacobs' conditions are worthwhile metrics by which modern UK town and city centres can be evaluated, should this finding be interpreted to imply that her hypotheses ought to be reversed? Should planners and policymakers seeking vital central districts *reduce* land use mixing, building age mixing, residential density, or intersection frequency? Of course not. The reasonableness of Jacobs' proposals, if not their corroborating evidence, holds strong.

A more measured interpretation is likely appropriate: while Jacobs' conditions have retained obvious relevance in planning discourse (Sung et al., 2013; Sung and Lee, 2015; Nadai et al., 2016; Delclòs-Alió and Miralles-Guasch, 2018), underlying social, economic, and political forces affecting urban planning and development have notably shifted, suggesting that factors driving town and city centre resilience extend beyond conformity with a small subset of physical characteristics defined based on North American cities more than half a century ago. The remainder of this chapter will discuss a few of these.

5.2 Additional Influences on Town and City Centre Vitality

5.2.1 August 2022 field visits

On weekdays in good weather in August of 2022, the author visited some of the studied town or city centres; these visits served several purposes. For one, a qualitative reasonableness check could be performed, verifying the data evaluated – including data on conformity and performance, as well as the locations and extents of studied town and city centre high streets[11]; additionally, intangible and unstudied aspects of town and city centre

[11] For example, the author was surprised to find Mansfield, classed as very successful, to be relatively quiet and uninteresting, especially compared to the other visited places. This largely reflects the nature of the compiled dataset, whereby town and city centres with strong *bounceback* are considered successful, not necessarily those with high absolute footfall. Upon return from Mansfield, the author completed one additional exploratory

places – beyond those evaluated as a part of this study – could be more thoroughly appreciated through in-field observations.

The visited settlements were selected to provide a good mixing of geographical location, characters, conformity, and performance levels; the places and rationales were as follows:

- Plymouth: very low conformity but the highest performance of all studied places (Figure 5-1);
- Gloucester: moderate conformity, but high performance (Figure 5-1);
- Liverpool: highest conformity of all studied places, but relatively low performance (Figure 5-2);
- York: low conformity but high performance; one of the highest proportions of historic buildings (46%) (Figure 5-2);
- Mansfield: lowest conformity, but very high performance (Figure 5-3); and
- Nottingham: moderate conformity, and moderate performance (Figure 5-3).

Figure 5-1 Representative images from Plymouth (left) and Gloucester (right), taken by author in August 2022

Figure 5-2 Representative images from Liverpool (left) and York (right), taken by author in August 2022

analysis, using the *absolute* measure of CfC-tracked vacancy rates (Centre for Cities, 2022). Importantly, the findings of this dissertation still held: a relationship between conformity and performance – absolute or relative – could not be identified.

Figure 5-3 Representative images from Mansfield (left) and Nottingham (right), taken by author in August 2022

5.2.2 Reflections on non-Jacobsian vitality conditions

Informed by further review of relevant scholarly literature and reflection on observations of the visited town and city centres, this section introduces a few additional factors which may help explain why some centres have demonstrated more resilience in the face of coronavirus-related restrictions than others.

Local socio-political demographics: Many influences of the resilience of local town or city centre high streets can likely be attributed to local demographic conditions. In the United States, for example, people living in rural areas tended to take fewer precautionary measures against COVID-19 than those in urban areas (Callaghan et al., 2021); if this relationship held in the UK as well, this would certainly be expected to influence footfall in centre districts. Additionally, local levels of deprivation; distributions of income, ages, and household types; and reliance on national and international tourism may similarly affect footfall in ways beyond the scope of this study (Enoch et al., 2021). In future work, examining the relative 'elasticities' of different groups of high street users may be fruitful, with areas defined by more inelastic patrons likely to have been more resilient to disruption, regardless of central district physical characteristics.

Transport accessibility: Towns and city centres are variously accessible by different transport modes. In Mansfield and Gloucester, for example, the train stations are located essentially in the centre; in York and Plymouth, in contrast, the train station is further away. Additionally, the differential availability and quality of local and regional bus services, provisions for people with disabilities, levels of pedestrianisation, and facilities for moving and storing personal motor vehicles all influence the overall accessibility of central districts, which would, in turn, be expected to influence patterns of footfall. In future work,

characterising the local transport network's relationship to the performance of central high street places may be fruitful for explaining divergent levels of resilience among them.

Local investment in specific centre characteristics: As urbanist Jan Gehl writes, "When the goal is to develop cities, [. . .] it is essential to work carefully to encourage life" (2010, p.89); in the case of UK town and city centres, how effectively life has been explicitly encouraged – or not – by local planners and policymakers would be expected to influence patterns of local footfall. For example, the presence of abundant public seating – as observed in Plymouth, for example (Figure 5-4) – can encourage people to linger comfortably (Carmona et al., 2003, p.165).

Figure 5-4 Plymouth city centre was observed to have abundant seating, both public and private. Images by author in August 2022.

Investment by local authorities in pedestrianised districts, the welcoming of festival-like elements, or a strong management of prominent local redevelopment projects to ensure high-quality results – as observed in Plymouth, York, and Nottingham, for example (Figure 5-5, Figure 5-6) – likely influence the attractiveness of centre districts as well. Finally, while 'buskers' were observed in several visited cities and towns, in Liverpool, where "Music is woven into the culture," these performers served to both reinforce local cultural traditions and

increase the authentic and organic vibrancy of public spaces in the city (University of Liverpool Department of Music, n.d.). In future work, a survey of less obviously measurable local characteristics influencing local vibrancy, such as those briefly introduced here, would likely be relevant for explaining differential levels of resilient vitality among town and city centres.

Figure 5-5 In York (left) and Nottingham (right), carnival-like elements helped create vibrancy. Images by author in August 2022.

Figure 5-6 In Nottingham (left) and Plymouth (right), projects designed to increase the attractiveness of centre spaces were underway. Images by author in August 2022.

5.3 Implications

In the UK, town and city centres are critical to the social and economic success of local communities. Because it is a worthwhile goal of local planners that these spaces be successful, the findings of this study are likely to be of particular interest to them.

As discussed in Chapter 2, the overall context in which Jacobs lived and wrote differs significantly from that of modern Britain; socioeconomic pressures on town and city centres; patterns of work, shopping, and recreation; and needs and services of district visitors have all shifted markedly over time. Consider, for example, the principle that centre districts ought to

have a good mixing of building ages, based on the idea that "high profit or [. . .] well subsidized" enterprises such as "chain stores" could occupy newer buildings, while older ones could be reserved for "neighbourhood bars, foreign restaurants and pawn shops[, and] good bookstores and antique dealers" (Jacobs, 1961, p.188). In modern Britain, defined by a regime of real estate commodification (Blakeley, 2020), the relationship between building age and rents may be more complex than Jacobs described; qualitative observations of York city centre further suggest this may be the case (Figure 5-7).

Figure 5-7 In York, the relationship between building age and commercial occupant did not appear to be as simple as Jacobs hypothesised it would be. Image by author in August 2022.

If it is the case that the Jacobsian conditions for urban vitality – defined based on her observations of primarily North American cities in the mid-20th century – do not necessarily correlate with high levels of vitality (and, specifically, resilience in the face of disruption) in British town or city centre high street districts, this might suggest that perhaps Jacobs' assertions do not retain critical relevance in modern Britain. For example, while planners and policymakers may identify a diverse population of business types and levels of profitability as a worthwhile target for a centre district, it may not be true that maintaining a diverse building stock is the most appropriate avenue through which to accomplish this target.

Indeed, while it is almost certainly the case that local physical characteristics heavily influence how attractive and successful town centre places are, it is also likely, however, that simply conforming to the Jacobsian physical characteristics will not automatically yield success. Rather, the findings of this study suggest that planners and policymakers concerned with town and city centre activation ought to look to and beyond physical characteristics, considering a more holistic approach to encouraging successful spaces (Gehl, 2010). While identifying all the features of such holistic planning efforts is beyond the scope of this analysis of the Jacobsian vitality conditions, further research in this field is warranted to characterise a broad range of local characteristics – physical, economic, social, environmental, and so on – that influence local activity; critically, these almost certainly go beyond the four evaluated Jacobsian vitality conditions, whose influence on resilient vibrancy may not, this dissertation suggests, maintain central relevance for shaping a vital 21st century Britain.

6. CONCLUSIONS

This dissertation has applied the Jacobsian vitality conditions to UK high streets in town and city centre districts in the wake of the global coronavirus pandemic. While Jacobs worked and wrote in North America during the mid-20th century, her work has been applied and discussed throughout the world in the decades since; however, evidence supporting her hypotheses is scant. As government-imposed restrictions eased and were finally removed completely in early 2022, a natural variation in the rebound of footfall among town and city centres created a novel opportunity to study the applicability of these conditions. This dissertation hypothesised that conformity with them would be correlated with strong rebound performance, suggesting that Jacobs' writing retains relevance in the present despite seismic shifts to contextual conditions in the ensuing decades since she lived and worked.

The contributions of this dissertation are as follows, aligning with its three objectives:

Objective 1: Develop a new dataset regarding conformity with Jacobs' conditions

A new dataset of conformity with the Jacobsian vitality conditions, alone a significant contribution to the scholarly community, has been developed and presented in full in Appendix A. These data are not tracked directly by any known organisation or government body and were manually created by combining several distinct publicly available datasets. In addition to the analysis presented in Chapter 4 in response to Objective 2, these data, representing a significant investment of time and effort, are expected to be highly useful to interested scholars.

Objective 2: Attempt to explain variations in performance based on the vitality conditions

This dissertation presented a novel multi-pronged analysis of the generated dataset to evaluate whether strong post-COVID performance was correlated with high conformity with Jacobs' conditions. The findings – centrally, that the data do not suggest a strong, consistent, or obvious positive relationship between conformity and resilience exists for the studied town and city centres – are novel and significant.

Objective 3: Consider, based on these findings, Jacobs' continued relevance

Of course, this study does not negate Jacobs' work; still, this dissertation does suggest that, while her proposals are certainly reasonable – it would, indeed, remain counter-intuitive and counter-productive to encourage low density, long blocks, low land use mixing, and low building age mixing in central districts – it may not be realistic to assume the Jacobsian ideal town or city centre would be certainly successful in modern Britain. Indeed, this dissertation has demonstrated that these conditions may not, alone, be sufficient for explaining varied

levels of vitality among studied settlement centres, and many additional characteristics are likely to play a role in influencing local success, including, for example, socioeconomic conditions and local investment in high quality urban design features.

While Jacobs' writing remains widely influential today, then, this dissertation suggests that planners and policymakers especially interested in promoting good centre high street spaces ought to target a broad range of holistic elements that together define a successful place. Some of these are known, such as the importance of benches for creating comfortable spaces attractive to visitors (Carmona et al., 2003; Gehl, 2010); others, in contrast, must be identified through future study. While this dissertation does not suggest efforts to make UK town and city centre spaces successful and attractive through the targeting of physical characteristics are doomed, success is probably most likely when these efforts go beyond the small subset described by Jane Jacobs more than half a century ago.

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APPENDIX A: RAW AND CLEANED DATA

In this Appendix, the raw and processed data for the 56 town and city centres studied for this dissertation, regarding conformity with the Jacobsian conditions and performance after the coronavirus shock, are presented (Table A-1).

Table A-1 Raw and relative scores for each studied town or city centre and each evaluated characteristic

Settlement	Land Use Mix Index (LUMI)		Block Lengths Index (BLI) (high street meter/intersection)		Building Age Mix Index (BAMI)		Residential Density Index (RDI) (residential dwellings/high street meter)		Performance Index (PI)	
	Raw Score	**Relative Score**	**Raw Score**	**Relative Score**	**Raw Score**	**Relative Score**	**Raw Score**	**Relative Score**	**Raw Score**	**Relative Score**
Aberdeen City	105.4	1	67.3	2	103.0	1	0.43	3	110.1	2
Barnsley	98.4	2	59.0	3	65.4	3	0.10	1	135.5	3
Basildon	73.9	3	106.5	1	142.9	1	0.20	2	105.8	2
Birmingham	84.2	3	71.3	2	69.7	3	0.15	1	87.0	1
Blackburn with Darwen	98.5	2	60.2	3	98.9	1	0.07	1	98.1	1
Blackpool	77.9	3	58.4	3	103.2	1	0.18	2	116.3	3
Bournemouth, Christchurch and Poole	102.3	1	75.7	1	73.0	3	0.44	3	101.7	2
Bradford	96.7	2	57.1	3	87.6	2	0.16	1	89.9	1
Brighton and Hove	93.5	2	46.4	3	84.0	2	0.33	3	106.2	2
Bristol, City of	104.4	1	66.5	2	69.7	3	0.32	3	99.1	1
Burnley	73.6	3	68.4	2	69.3	3	0.05	1	121.4	3
Cambridge	96.3	2	76.2	1	82.7	2	0.19	2	89.4	1
Cardiff	95.4	2	91.4	1	95.6	1	0.30	3	103.4	2
City of Edinburgh	94.2	2	81.5	1	113.6	1	0.36	3	105.1	2
City of London	74.6	3	58.7	3	81.6	2	0.40	3	61.1	1
Coventry	106.5	1	110.3	1	97.1	1	0.39	3	91.4	1

Settlement	Land Use Mix Index (LUMI)		Block Lengths Index (BLI) (high street meter/intersection)		Building Age Mix Index (BAMI)		Residential Density Index (RDI) (residential dwellings/high street meter)		Performance Index (PI)	
	Raw Score	**Relative Score**	**Raw Score**	**Relative Score**	**Raw Score**	**Relative Score**	**Raw Score**	**Relative Score**	**Raw Score**	**Relative Score**
Crawley	91.7	3	73.4	1	105.9	1	0.18	2	101.8	2
Derby	100.4	1	67.7	2	79.3	2	0.12	1	101.6	2
Doncaster	103.6	1	63.2	3	78.4	2	0.15	1	110.7	3
Dundee City	106.6	1	68.0	2	105.4	1	0.18	2	132.3	3
Exeter	102.4	1	96.8	1	76.6	2	0.26	2	118.8	3
Glasgow City	94.6	2	72.0	1	79.5	2	0.25	2	95.3	1
Gloucester	98.2	2	78.9	1	77.4	2	0.32	3	111.2	3
Ipswich	102.2	1	69.0	2	74.3	3	0.17	1	103.8	2
Kingston upon Hull, City of	101.1	1	74.5	1	75.1	3	0.12	1	115.6	3
Leeds	90.4	3	65.2	2	84.2	2	0.18	2	96.1	1
Leicester	102.2	1	65.0	2	82.5	2	0.21	2	99.6	1
Liverpool	91.3	3	52.4	3	63.0	3	0.43	3	104.1	2
Luton	103.4	1	71.8	1	51.0	3	0.41	3	84.2	1
Manchester	91	3	57.5	3	85.9	2	0.30	3	90.0	1
Mansfield	104.2	1	64.9	2	90.0	1	0.10	1	114.9	3
Middlesbrough	96.8	2	69.1	2	54.6	3	0.22	2	119.4	3
Milton Keynes	89	3	96.7	1	132.4	1	0.00	1	83.5	1
Newcastle upon Tyne	94.3	2	64.6	3	59.8	3	0.34	3	114.2	3

Settlement	Land Use Mix Index (LUMI)		Block Lengths Index (BLI) (high street meter/intersection)		Building Age Mix Index (BAMI)		Residential Density Index (RDI) (residential dwellings/high street meter)		Performance Index (PI)	
	Raw Score	**Relative Score**	**Raw Score**	**Relative Score**	**Raw Score**	**Relative Score**	**Raw Score**	**Relative Score**	**Raw Score**	**Relative Score**
Newport	95.3	2	67.7	2	83.9	2	0.22	2	96.9	1
Northampton	80.7	3	69.6	2	62.5	3	0.28	2	99.9	2
Norwich	86.5	3	71.1	2	66.7	3	0.23	2	106.4	2
Nottingham	99.7	1	77.3	1	66.0	3	0.39	3	108.6	2
Oxford	88.7	3	77.7	1	107.7	1	0.19	2	82.0	1
Peterborough	93	3	66.2	2	79.9	2	0.17	1	103.8	2
Plymouth	104.8	1	77.3	1	117.4	1	0.37	3	169.1	3
Portsmouth	108.2	1	45.8	3	89.7	1	0.71	3	109.8	2
Preston	96.9	2	46.7	3	81.0	2	0.09	1	113.5	3
Reading	95.3	2	76.6	1	68.8	3	0.20	2	87.2	1
Sheffield	103.9	1	55.7	3	69.3	3	0.32	3	103.4	2
Slough	96.8	2	126.0	1	74.2	3	0.73	3	82.6	1
Stoke-on-Trent	87.4	3	68.5	2	85.9	2	0.02	1	111.3	3
Sunderland	96.7	2	61.9	3	77.7	2	0.16	1	126.5	3
Swansea	87.5	3	64.7	3	76.4	2	0.32	3	126.6	3
Swindon	95.5	2	67.7	2	65.8	3	0.12	1	99.5	1
Telford and Wrekin	89.4	3	407.5	1	143.7	1	0.00	1	108.1	2
Wakefield	100.7	1	53.6	3	95.1	1	0.29	2	117.4	3

Settlement	Land Use Mix Index (LUMI)		Block Lengths Index (BLI) (high street meter/intersection)		Building Age Mix Index (BAMI)		Residential Density Index (RDI) (residential dwellings/high street meter)		Performance Index (PI)	
	Raw Score	**Relative Score**	**Raw Score**	**Relative Score**	**Raw Score**	**Relative Score**	**Raw Score**	**Relative Score**	**Raw Score**	**Relative Score**
Warrington	88.2	3	57.9	3	101.6	1	0.05	1	108.2	2
Wigan	91.5	3	56.8	3	99.0	1	0.04	1	119.8	3
Worthing	107.4	1	51.4	3	73.0	3	0.27	2	89.9	1
York	96.6	2	69.0	2	94.3	1	0.24	2	114.1	3

APPENDIX B: APPROVED ETHICS CLEARANCE AND RISK ASSESSMENT FORMS

Supervisor sign-off for Ethical Clearance Forms and Risk Assessment Forms

(For supervisor completion only BEFORE submission via Moodle)

Are you satisfied with the **ethical clearance form** (*yes*/*no*)?

Please provide any additional comments about the form that may help the student. ***(If the form is missing, the proposal must be given a mark of 0, and the student will have 48hours to resubmit the complete proposal. If the form is unsatisfactory, the student must amend their ethical questionnaire to your satisfaction before they can proceed with their research)***

Are you satisfied with the **risk assessment form** (*yes*/*no*)?

Please provide any additional comments about the form that may help the student. ***(If the form is missing, the proposal must be given a mark of 0, and the student will have 48hours to resubmit the complete proposal. If the form is unsatisfactory, the student must amend their ethical questionnaire to your satisfaction before they can proceed with their research)***

Note: this is a copy of the proforma that each student MUST complete and submit directly on Moodle. Please reproduce your submission here for the purpose of your supervisor signing off on its review and approval.

Ethical Clearance Pro Forma

It is important for you to include all relevant information about your research in this form, so that your supervisor can give you the best advice on how to proceed with your research.

You are advised to read though the relevant sections of UCL's Research Integrity guidance to learn more about your ethical obligations.

Submission Details

1. **Name of programme of study:**

   International Planning

2. **Please indicate the type of research work you are doing:**

   Dissertation in Planning (MSc)

3. **Please provide the current working title of your research:**

   Testing the Jacobs Conditions for Urban Vitality: UK High Streets during COVID

4. **Please indicate your supervisor's name:**

   Teh, Tse-Hui

Research Details

5. **Please indicate here which data collection methods you expect to use.**

   Secondary Data Analysis

6. **Please indicate where your research will take place:**

   UK only

7. **Does your project involve the recruitment of participants?**
   'Participants' means human participants and their data (including sensor/locational data and observational notes/images.)

   No

Appropriate Safeguard, Data Storage and Security

8. Will your research involve the collection and/or use of personal data?

Personal data is data which relates to a living individual who can be identified from that data or from the data and other information that is either currently held, or will be held by the data controller (you, as the researcher).

This includes:
- Any expression of opinion about the individual and any intentions of the data controller or any other person toward the individual.
- Sensor, location or visual data which may reveal information that enables the identification of a face, address etc. (some post codes cover only one property).
- Combinations of data which may reveal identifiable data, such as names, email/postal addresses, date of birth, ethnicity, descriptions of health diagnosis or conditions, computer IP address (of relating to a device with a single user).

No

9. Is your research using or collecting:
- special category data as defined by the General Data Protection Regulation*, and/or
- data which might be considered sensitive in some countries, cultures or contexts?

*Examples of special category data are data:
- which reveals racial or ethnic origin, political opinions, religious or philosophical beliefs, trade union membership;
- concerning health (the physical or mental health of a person, including the provision of health care services);
- concerning sex life or sexual orientation;
- genetic or biometric data processed to uniquely identify a natural person.

No

10. Do you confirm that all personal data will be stored and processed in compliance with the General Data Protection Regulation (GDPR 2018)? (Choose one only, delete that which does not apply)

I will not be working with any personal data

11. I confirm that:

- The information in this form is accurate to the best of my knowledge.
- I will continue to reflect on and update these ethical considerations in consultation with my supervisor.

Yes

RISK ASSESSMENT FORM
FIELD / LOCATION WORK

DEPARTMENT/SECTION: BARTLETT SCHOOL OF PLANNING
LOCATION(S): LONDON, UK
PERSONS COVERED BY THE RISK ASSESSMENT: Michael Tormey

BRIEF DESCRIPTION OF FIELDWORK (including geographic location): No fieldwork anticipated, dissertation is solely desk-based and student will be solely based in London, UK

COVID-19 RELATED GENERIC RISK ASSESSMENT STATEMENT:

Coronavirus disease (COVID-19) is an infectious disease caused by coronavirus SARS-CoV-2. The virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes. Droplets fall on people in the vicinity and can be directly inhaled or picked up on the hands and transferred when someone touches their face. This risk assessment documents key risks associated fieldwork during a pandemic, but it is not exhaustive and will not be able to cover all known risks, globally. This assessment outlines principles adopted by UCL at an institutional level and it is necessarily general. Please use the open text box 'Other' to indicate any contingent risk factors and control measures you might encounter during the course of your dissertation research and writing.

Please refer to the Dissertation in Planning Guidance Document (available on Moodle) to help you complete this form.

Hazard 1: Risk of Covid -19 infection during research related travel and research related interactions with others (when face-to-face is possible and/or unavoidable)

Risk Level - Medium /Moderate

Existing Advisable Control Measures: Do not travel if you are unwell, particularly if you have COVID-19 symptoms. Self-isolate in line with NHS (or country-specific) guidance.

Avoid travelling and face-to-face interactions; if you need to travel and meet with others:

- If possible, avoid using public transport and cycle or walk instead.
- If you need to use public transport travel in off-peak times and follow transport provider's and governmental guidelines.
- Maintain (2 metre) social distancing where possible and where 2 metre social distancing is not achievable, wear face covering.
- Wear face covering at all times in enclosed or indoor spaces.
- Use hand sanitiser prior to and after journey.
- Avoid consuming food or drinks, if possible, during journey.
- Avoid, if possible, interchanges when travelling - choose direct route.
- Face away from other persons. If you have to face a person ensure that the duration is as short as possible.
- Do not share any items i.e. stationary, tablets, laptops etc. If items need to be shared use disinfectant wipes to disinfect items prior to and after sharing.

- If meeting in a group for research purposes ensure you are following current country specific guidance on face-to-face meetings (i.e rule of 6 etc.)
- If and when possible meet outside and when not possible meet in venues with good ventilation (e.g. open a window)
- If you feel unwell during or after a meeting with others, inform others you have interacted with, self-isolate and get tested for Covid-19
- Avoid high noise areas as this mean the need to shout which increases risk of aerosol transmission of the virus.
- Follow one way circulation systems, if in place. Make sure to check before you visit a building.
- Always read and follow the visitors policy for the organisation you will be visiting.
- Flush toilets with toilet lid closed.
-'Other' Control Measures you will take (specify):

NOTE: The hazards and existing control measures above pertain to Covid-19 infection risks only. More generalised health and safety risk may exist due to remote field work activities and these are outlined in your Dissertation in Planning Guidance document. Please consider these as possible 'risk' factors in completing the remainder of this standard form. For more information also see: Guidance Framework for Fieldwork in Taught and MRes Programmes, 2021-22

Consider, in turn, each hazard (white on black). If **NO** hazard exists select **NO** and move to next hazard section.
If a hazard does exist select **YES** and assess the risks that could arise from that hazard in the risk assessment box.
Where risks are identified that are not adequately controlled they must be brought to the attention of your Departmental Management who should put temporary control measures in place or stop the work. Detail such risks in the final section.

ENVIRONMENT	**The environment always represents a safety hazard. Use space below to identify and assess any risks associated with this hazard**
e.g. location, climate, terrain, neighbourhood, in outside organizations, pollution, animals.	There is, of course, risk associated with performing desk-based study in a city where air conditioning is uncommon and summer days can be quite warm. This is, specifically, the risk of adverse impacts from heat exposure. With indoor work, this risk is low.

CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**
N	work abroad incorporates Foreign Office advice
N	only accredited centres are used for rural field work
Y	**participants will wear appropriate clothing and footwear for the specified environment**
Y	**refuge is available**
N	work in outside organisations is subject to their having satisfactory H&S procedures in place
Y	OTHER CONTROL MEASURES: please specify any other control measures you have implemented: **A fan will be purchased to keep the home environment cool, and consistent and responsible hydration will ensure safe home working on the hottest days.**

EMERGENCIES	**Where emergencies may arise use space below to identify and assess any risks**
e.g. fire, accidents	There is, of course, the risk of serious emergency, but not any risk over and above that which would be reasonably expected for any individual working in any home environment. A low risk of fire, flood, and violence may exist, though the exposure to risk is not increased as a result of performing research for this dissertation.

CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**
N	participants have registered with LOCATE at http://www.fco.gov.uk/en/travel-and-living-abroad/
Y	**contact numbers for emergency services are known to all participants**
Y	**participants have means of contacting emergency services**
N	a plan for rescue has been formulated, all parties understand the procedure
N	the plan for rescue /emergency has a reciprocal element
N	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

FIELDWORK **1** May 2010

EQUIPMENT	**Is equipment used?**	**YES**	**If 'No' move to next hazard** **If 'Yes' use space below to identify and assess any risks**
e.g. clothing, outboard motors.	Working at a desk is associated with a number of risks. Poor posture is associated with tenosynovitis, carpel tunnel syndrome, tendonitis, and back and neck pain. Prolonged attention on a screen is associated with eyestrain and headaches. This risk is low.		

CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**
N	the departmental written Arrangement for equipment is followed
Y	**participants have been provided with any necessary equipment appropriate for the work**
Y	**all equipment has been inspected, before issue, by a competent person**
Y	**all users have been advised of correct use**
N	special equipment is only issued to persons trained in its use by a competent person
Y	OTHER CONTROL MEASURES: please specify any other control measures you have implemented: **Ergonomically-appropriate workstation with proper equipment and based on best-practice guidance is assembled**

LONE WORKING	**Is lone working a possibility?**	**YES**	**If 'No' move to next hazard** **If 'Yes' use space below to identify and assess any risks**
e.g. alone or in isolation *lone interviews.*	While I will be working alone, I will be working alone from my home. Most of the time, there will be another person in my flat with me, so any risk associated with working alone from my own desk in my own flat is very low, and certainly not exacerbated by performing research for this dissertation project.		

CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**
N	the departmental written Arrangement for lone/out of hours working for field work is followed
N	lone or isolated working is not allowed
N	location, route and expected time of return of lone workers is logged daily before work commences
Y	**all workers have the means of raising an alarm in the event of an emergency, e.g. phone, flare, whistle**
Y	**all workers are fully familiar with emergency procedures**
Y	OTHER CONTROL MEASURES: please specify any other control measures you have implemented: **Flatmates and housemates will check in on each other periodically to ensure everyone is remaining safe, healthy, and productive**

FIELDWORK **2** May 2010

ILL HEALTH	**The possibility of ill health always represents a safety hazard. Use space below to identify and assess any risks associated with this Hazard.**			
e.g. accident, illness, personal attack, special personal considerations or vulnerabilities.	The risk of personal illness and injury is, of course, nonzero, though the risk of developing a serious and debilitating illness over the course of home working is very low. The risk of developing a serious and debilitating illness that impacts my ability to perform home working is also low, though appropriate precautions will be taken to minimise these risks.			
CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**			
Y	**all participants have had the necessary inoculations/ carry appropriate prophylactics**			
Y	**participants have been advised of the physical demands of the research and are deemed to be physically suited**			
N	participants have been adequate advice on harmful plants, animals and substances they may encounter			
Y	**participants who require medication should carry sufficient medication for their needs**			
N	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:			
TRANSPORT	**Will transport be required**	**NO**	**X**	**Move to next hazard**
		YES		**Use space below to identify and assess any risks**
e.g. hired vehicles	Examples of risk: accidents arising from lack of maintenance, suitability or training Is the risk high / medium / low?			
CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**			
	only public transport will be used			
	the vehicle will be hired from a reputable supplier			
	transport must be properly maintained in compliance with relevant national regulations			
	drivers comply with UCL Policy on Drivers http://www.ucl.ac.uk/hr/docs/college_drivers.php			
	drivers have been trained and hold the appropriate licence			
	there will be more than one driver to prevent driver/operator fatigue, and there will be adequate rest periods			
	sufficient spare parts carried to meet foreseeable emergencies			
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:			
DEALING WITH THE PUBLIC	**Will people be dealing with public**	**NO**		**If 'No' move to next hazard** **If 'Yes' use space below to identify and assess any risks**

e.g. interviews, observing	Examples of risk: personal attack, causing offence, being misinterpreted. Is the risk high / medium / low?

CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**

	all participants are trained in interviewing techniques
	advice and support from local groups has been sought
	participants do not wear clothes that might cause offence or attract unwanted attention
	interviews are conducted at neutral locations or where neither party could be at risk
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

FIELDWORK **3** May 2010

WORKING ON OR NEAR WATER	**Will people work on or near water?**	**NO**	**If 'No' move to next hazard** **If 'Yes' use space below to identify and assess any risks**

e.g. rivers, marshland, sea.	Examples of risk: drowning, malaria, hepatitis A, parasites. Is the risk high / medium / low?

CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**

	lone working on or near water will not be allowed
	coastguard information is understood; all work takes place outside those times when tides could prove a threat
	all participants are competent swimmers
	participants always wear adequate protective equipment, e.g. buoyancy aids, wellingtons
	boat is operated by a competent person
	all boats are equipped with an alternative means of propulsion e.g. oars
	participants have received any appropriate inoculations
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

MANUAL HANDLING (MH)	**Do MH activities take place?**	**NO**	**If 'No' move to next hazard** **If 'Yes' use space below to identify and assess any risks**
e.g. lifting, carrying, moving large or heavy equipment, physical unsuitability for the task.	Examples of risk: strain, cuts, broken bones. Is the risk high / medium / low?		

CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**

	the departmental written Arrangement for MH is followed
	the supervisor has attended a MH risk assessment course
	all tasks are within reasonable limits, persons physically unsuited to the MH task are prohibited from such activities
	all persons performing MH tasks are adequately trained
	equipment components will be assembled on site
	any MH task outside the competence of staff will be done by contractors
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

FIELDWORK 4 May 2010

SUBSTANCES	**Will participants work with substances**	**NO**	**If 'No' move to next hazard** **If 'Yes' use space below to identify and assess any risks**
e.g. plants, chemical, biohazard, waste	Examples of risk: ill health - poisoning, infection, illness, burns, cuts. Is the risk high / medium / low?		
CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**		

- [ ] the departmental written Arrangements for dealing with hazardous substances and waste are followed
- [ ] all participants are given information, training and protective equipment for hazardous substances they may encounter
- [ ] participants who have allergies have advised the leader of this and carry sufficient medication for their needs
- [ ] waste is disposed of in a responsible manner
- [ ] suitable containers are provided for hazardous waste
- [ ] OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

OTHER HAZARDS	**Have you identified any other hazards?**	**NO**	**If 'No' move to next section** **If 'Yes' use space below to identify and assess any risks**
i.e. any other hazards must be noted and assessed here.	Hazard: Risk: is the risk		
CONTROL MEASURES	**Give details of control measures in place to control the identified risks**		

Have you identified any risks that are not adequately controlled?			
	NO	**X**	**Move to Declaration**
	YES		**Use space below to identify the risk and what action was taken**

DECLARATION	The work will be reassessed whenever there is a significant change and at least annually. Those participating in the work have read the assessment.

	Select the appropriate statement:
x	I the undersigned have assessed the activity and associated risks and declare that there is no significant residual risk
	I the undersigned have assessed the activity and associated risks and declare that the risk will be controlled by the method(s) listed above

NAME OF SUPERVISOR: Teh, Tse-Hui

FIELDWORK **5** May 2010

BPLN0039_VDBS6

GRADEMARK REPORT

FINAL GRADE

/100

GENERAL COMMENTS

Instructor

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